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said sheath to an expanded condition in which said sheath, array of filaments, and passage have relatively large oval cross sectional sizes in a plane perpendicular to the longitudinal central axis of said sheath, and a pointed end portion for piercing body tissue when said sheath and passage have the relatively small oval cross sectional sizes in a plane perpendicular to a longitudinal central axis of said sheath, wherein said passage in said sheath is engagable by a member having an oval cross sectional configuration in a plane extending perpendicular to the longitudinal central axis of said sheath, said member having an oval cross sectional configuration being axially movable along said passage in said sheath to expand said sheath from the contracted condition to the expanded condition.

REMARKS

Claims 57-62, 64-73, 75, and 77-79, as amended are submitted for the Examiner's review and consideration. In this Response, Applicants have amended certain claims. In light of the Final Office Action, Applicants believe these amendments serve a useful clarification purpose, and are desirable for clarification purposes, independent of patentability. Accordingly, Applicants respectfully submit that the claim amendments do not limit the range of any permissible equivalents.

In the Final Office Action, the disclosure was objected to because of informalities identified in claims 57, 64, 72, 73, and 77. In response, Applicants have amended these claims to address these informalities and respectfully submit that these objections have been overcome.

Claims 57-63 and 66-71 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,295,994 to Bonutti ("Bonutti"). For the reasons set forth below, Applicants respectfully submit that these claims are not taught or suggested by Bonutti.

Bonutti is directed to an expandable cannula that can include tethering cords that limit the expansion of the cannula. As previously discussed in the Response to the prior Office Action, these tethering cords extend from the cannula inner wall to the cannula outer wall. In contrast, the cannula according to the present invention includes a sheath which at least partially encloses an array of filaments which extends between axially opposite end portions of the sheath. As found throughout the specification (*see e.g.* Pg. 38, Lns. 4-ff), cannula 400c includes an elastic sheath 402c that encloses wires 404c. The wires are longitudinally extending, *i.e.* they extend from one

end of the sheath to the other end. In the Response to the prior Office Action, Applicants presented arguments and amendments to this effect in order to clarify the differences between the claimed invention and Bonutti.

With respect to these arguments and amendments, the Examiner states in the Final Office Action that “[t]he allegation that the Bonutti array of filaments 172 does not extend ‘between axially opposite end portions of the sheath’ as defined in claim 57, line 10 (and similarly defined in claim 66) is not well founded. The Bonutti array of filaments 172 is clearly located between the ends of the sheath. Although each of the filaments 172 does not extend completely from one end of the sheath to the other end, this feature has not been claimed.”

Applicants respectfully disagree with the Examiner’s interpretation of the claims and Bonutti. While Bonutti may show that the tethering cords are clearly located between the ends of the cannula, Bonutti does not show an array of filaments that extends between axially opposite end portions of a sheath.¹ The only relevant dictionary definitions of extend state “to cause to reach” and “to stretch out in distance, space, or time.” Merriam Webster’s Collegiate Dictionary (10th Ed. 1994). As previously noted, it is clear from the specification that the array of filaments runs from one end of the sheath to the other end of the sheath. The figures of the instant application also show the array of filaments going from one end of the sheath to the other end.

Applicants respectfully submit that these differences distinguish the claimed invention from the cited prior art. However, in order to expedite prosecution of this case and to clarify the differences between the claimed invention and Bonutti, Applicants have amended independent claim 57 to recite that the array of filaments extends axially substantially from one end portion to the other end portion of the sheath. Independent claim 66 has been amended to recite that the array of filaments extends between axially opposite end portions of the sheath substantially from one end portion to the other end portion of the sheath.

In light of the foregoing, independent claims 57 and 66 are respectfully submitted to be patentable over Bonutti. As claims 58-62, which depend from claim 57, and claims 67-71, which depend from claim 66, necessarily include all the elements of their respective base claim, Applicants respectfully submit that these claims are also allowable over Bonutti at least for the

¹ Applicants note that there is still the outstanding threshold issue of whether the tethering cords of Bonutti read on or are equivalent to the claimed array of filaments. Given the distinctions regarding the location and placement, Applicants have chosen not to address this issue.

same reasons.

Claim 77 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,716,901 to Jackson ("Jackson"). Although the Examiner had previously indicated that claim 77 would be allowable if rewritten in independent form, the Examiner stated that as rewritten, "claim 77 fails to include all of the limitations of claims 73 and 66 prior to the last amendment."

Applicants apologize for the error and have amended claim 77 as required by the Examiner.

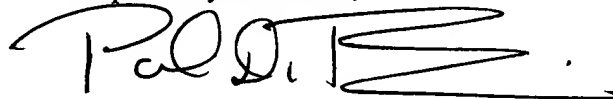
Accordingly, Applicants respectfully submit that claim 77 is now allowable.

Finally, Applicants acknowledge with appreciation the allowance of claims 64, 72, 73, 75, 78, and 79.

In light of the foregoing remarks, this application is now in condition for allowance and early passage of this case to issue is respectfully requested. If any questions remain regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

No fee is believed to be due with this submission. However, please charge the required fee (or credit any overpayments of fees) to the Deposit Account of the undersigned, Account No. 500601 (Docket no. 780-A02-003-2).

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "P. D. Bianco", with a stylized, elongated horizontal stroke at the end.

Paul D. Bianco, Reg. # 43,500

Enclosures

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Marked-Up Copy of the Amended Claims

The identified claims were amended as follows, with additions underlined and deletions bracketed:

57. (Twice Amended) An expandable cannula which is movable into a patient's body tissue, said cannula comprising a tubular sheath [leaving] having a passage which extends between axially opposite end portions of said sheath, said sheath being resiliently expandable from a contracted condition in which the passage through said sheath has a relatively small cross sectional size in a plane perpendicular to a longitudinal central axis of said sheath to an expanded condition in which the passage through said sheath has a relatively large cross sectional size in a plane perpendicular to the longitudinal central axis of said sheath, said sheath having an oval cross section in a plane extending perpendicular to the longitudinal central axis of said sheath when said sheath is in the contracted condition; and an array of filaments which is enclosed by said sheath and extends [between] axially [opposite end portions] substantially from one end portion to the other end portion of said sheath.

64. (Twice Amended) An expandable cannula which is movable into a patient's body tissue, said cannula comprising a tubular sheath [leaving] having a passage which extends between axially opposite end portions of said sheath, said sheath being resiliently expandable from a contracted condition in which the passage through said sheath has a relatively small cross sectional size in a plane perpendicular to a longitudinal central axis of said sheath to an expanded condition in which the passage through said sheath has a relatively large cross sectional size in a plane perpendicular to the longitudinal central axis of said sheath, said sheath having an oval cross section in a plane extending perpendicular to the longitudinal central axis of said sheath when said sheath is in the contracted condition; and a variable volume chamber connected with said sheath and movable into the patient's body tissue with at least a portion of said sheath, said variable volume chamber being expandable under the influence of fluid pressure to an extended condition in which said variable volume chamber projects outward from a side surface of said sheath to retard withdrawal of said sheath from the patient's body tissue.

66. (Amended) An expandable cannula which is movable into a patient's body tissue, said cannula comprising a tubular sheath which at least partially encloses an array of filaments which extends between axially opposite end portions of said sheath substantially from one end portion to the other end portion of said sheath, said sheath and said array of filaments being resiliently expandable from a contracted condition in which said sheath and said array of filaments have a relatively small cross sectional size in a plane perpendicular to a longitudinal central axis of said sheath to an expanded condition in which said sheath and said array of filaments leave a relatively large cross sectional size in a plane perpendicular to the longitudinal central axis of said sheath.

72. (Twice Amended) An expandable cannula which is movable into a patient's body tissue, said cannula comprising a tubular sheath which at least partially encloses an array of filaments which extends between axially opposite end portions of said sheath, said sheath and said array of filaments being resiliently expandable from a contracted condition in which said sheath and said array of filaments have a relatively small cross sectional size in a plane perpendicular to a longitudinal central axis of said sheath to an expanded condition in which said sheath and said array of filaments [leave] have a relatively large cross sectional size in a plane perpendicular to the longitudinal central axis of said sheath; and a variable volume chamber connected with said sheath and insertable into the patient's body tissue with at least a portion of said sheath, said variable volume chamber being expandable under the influence of fluid pressure to an extended condition in which said variable volume chamber projects outward from a side surface of said sheath to retard withdrawal of said sheath from the patient's body tissue.

73. (Twice Amended) An expandable cannula which is movable into a patient's body tissue, said cannula comprising a tubular sheath which at least partially encloses an array of filaments which extends between axially opposite end portions of said sheath, said sheath and said array of filaments being resiliently expandable from a contracted condition in which said sheath and said array of filaments have a relatively small cross sectional size in a plane perpendicular to a longitudinal central axis of said sheath to an expanded

condition in which said sheath and said array of filaments [leave] have a relatively large cross sectional size in a plane perpendicular to the longitudinal central axis of said sheath, wherein said sheath has a pointed end portion for piercing body tissue when said sheath and array of filaments are in the contracted condition.

77. (Twice Amended) An expandable cannula which is movable into a patient's body tissue, said cannula comprising a tubular sheath [having] which at least partially encloses an array of filaments which extends between axially opposite end portions of said sheath, said sheath having a passage which extends between axially opposite end portions of said sheath, said sheath and said array of filaments being resiliently expandable from a contracted condition in which said sheath, array of filaments, and passage have relatively small oval cross sectional sizes in a plane perpendicular to a longitudinal central axis of said sheath to an expanded condition in which said sheath, array of filaments, and passage have relatively large oval cross sectional sizes in a plane perpendicular to the longitudinal central axis of said sheath, and a pointed end portion for piercing body tissue when said sheath and passage have the relatively small oval cross sectional sizes in a plane perpendicular to a longitudinal central axis of said sheath, wherein said passage in said sheath is engagable by a member having an oval cross sectional configuration in a plane extending perpendicular to the longitudinal central axis of said sheath, said member having an [oral] oval cross sectional configuration being axially movable along said passage in said sheath to expand said sheath from the contracted condition to the expanded condition.